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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/559,891

12/06/2005

Adrian Robert Leigh Travis

65,396-0001

2859

26127 7590 03/31/2008
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EXAMINER

CARTER III, ROBERT E

ART UNIT

PAPER NUMBER

2629

MAIL DATE

DELIVERY MODE

03/31/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/559,891	Applicant(s) TRAVIS, ADRIAN ROBERT LEIGH	
	Examiner ROBERT E. CARTER III	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/06/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 8 is objected to because of the following informalities: The phrase "according to any claim 7" in line 1 of claim 8 should be changed to "according to claim 7". Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 5, and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Sakaguchi et al. (US Patent # 6,448,951).

As for claim 1, Sakaguchi et al. teaches:

An illuminator (Fig. 1, #4) for a flat-panel display (Fig. 1, #1), comprising a tapered slab waveguide (Fig. 5, #18) co-extensive with the display, a light source (Fig. 4, plurality of LEDs) arranged to inject light into an edge of the waveguide so that it emerges over the face of the waveguide, and means (Fig. 4, #8) for scanning the light injected into the wedge.

As for claim 2, Sakaguchi et al. teaches:

An illuminator in which the light source consists of addressable rows (Fig. 4, B/L #0 - B/L # 8) of elements (Fig. 4, single LED), and the scanning means includes a circuit (Fig. 4, #8) for addressing these rows.

As for claim 5, Sakaguchi et al. teaches:

An illuminator in which the elements are LEDs (the elements in Fig. 4 are clearly labeled as LEDs).

As for claim 7, Sakaguchi et al. teaches:

A display comprising an illuminator (Fig. 1, #4) used as a backlight, and a flat-panel modulator (Fig. 1, #3) over the display waveguide (Col. 6, line 65 - Col. 7, line 2).

As for claim 8, Sakaguchi et al. teaches:

A display in which the modulator is a liquid-crystal display (Col. 5, line 22).

As for claim 9, Sakaguchi et al. teaches:

A display in which the scanning addressing circuit is synchronized with the row addressing circuit of the LCD (Col. 5, lines 57-59).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2629

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi et al. in view of Wang (US Patent # 6,704,017)

As for claim 3, Sakaguchi et al. teaches all the limitations of claim 2.

Sakaguchi et al. does not teach a cylindrical mirror.

In the same field of endeavor (i.e. backlights using light guides) Wang teaches:

An illuminator (Fig. 2, #20) in which the light from the elements (Fig. 2, #23) is collimated into the display waveguide (Fig. 2, #21) by a cylindrical mirror (Fig. 2, #24), (Col. 3, lines 9-14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the illuminator of Sakaguchi et al. with the cylindrical mirror of Wang, to reflect the light from the light elements into the light guide (Wang, Col. 3, lines 11-14).

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi et al. in view of Nauta et al. (US Publication # 2002/0030772)

As for claim 4, Sakaguchi et al. teaches all the limitations of claim 2.

Sakaguchi et al. does not teach a further waveguide.

In the same field of endeavor (i.e. backlights using light guides) Nauta et al. teaches:

An illuminator (Fig. 1, #8) in which the light from the elements (Fig. 1, #12) is collimated into the display waveguide (Fig. 1, #15) by a further waveguide (Fig. 1, #13), [0030].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the illuminator of Sakaguchi et al. with the further waveguide of Nauta et al., to ensure all light leaving the waveguide contributes to the light output of the illumination system (Nauta et al., [0030]).

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi et al. in view of Higuchi et al. (US Patent # 5,887,964)

As for claim 6, Sakaguchi et al. teaches all the limitations of claim 1.

Sakaguchi et al. does not teach a sheet for guiding the emerging light towards the normal to the display waveguide.

In the same field of endeavor (i.e. backlights using light guides) Higuchi et al. teaches:

An illuminator (Fig. 4) further including a sheet (Fig.4, #4') for guiding the emerging light towards the normal to the display waveguide (Fig. 4, #1), (Col. 8, lines 31-36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the illuminator of Sakaguchi et al. with the light guiding sheet of Higuchi et al., to provide whiteness and softness without degrading brightness (Higuchi et al., Col. 4, lines 56-61).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Mizutani et al. (US Patent # 6,744,416) discloses: an illuminator with a tapered waveguide and LED light source.

Fukuzawa et al. (US Patent # 6,249,328) discloses: an illuminator with multiple light sources and a curved mirror.

Matsui (Japanese Publication # JP2003187623A) discloses: an illuminator with a LED light source.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT E. CARTER III whose telephone number is (571)270-3006. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sumati Lefkowitz/
Supervisory Patent Examiner, Art Unit 2629

/R.E.C/